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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/914,984 | 12/18/2001 | Viktor Van Stoller | Mo-6617/STA-155 | 6679 |

34947 7590 01/29/2004

BAYER CHEMICALS CORPORATION
PATENT DEPARTMENT
100 BAYER ROAD
PITTSBURGH, PA 15205-9741

EXAMINER

RUTHKOSKY, MARK

ART UNIT

PAPER NUMBER

1745

DATE MAILED: 01/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

| | | |
|-------------------------------|--------------------------------|--|
| Application No. 09/914,984 | Applicant(s) STOLLER ET AL. | |
| Examiner Mark Ruthkosky | Art Unit 1745 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
 Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the minimum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 135).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 November 2003.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 24-42 is/are pending in the application.
- 4a) Of the above claim(s) 30-41 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 24-29 and 42 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
 a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

The rejection of claims 22, 26-29 and 42-43 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention has been overcome by canceling claim 22.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 22-25, 27-29 and 42-43 stand rejected under 35 U.S.C. 102(b) as being anticipated by Watada et al. (JP 10-021,901.)

The instant claims are to a coated nickel hydroxide having a cobalt (II) hydroxide coating that is stable to oxidation. The coating has 1-200 mmol of one or more anions of weak inorganic oxygen acids per mol of cobalt (II) hydroxide and wherein on the surface of the cobalt hydroxide coating is at most a monomolecular layer of the anions of the weak inorganic oxygen molecules.

Watada et al. (JP 10-021,901) teaches a nickel hydroxide active material having a cobalt (II) hydroxide coating that is stable to oxidation (see the abstract). The cobalt (II) hydroxide coating is in the alpha-state, which is stable to oxidation. The cobalt compound may also include an additive doping element, such as aluminum, and weak organic anions, including carbonate

anions in the range of 1-200 mmol. At most, a monomolecular layer of the anions of the weak inorganic oxygen molecules will form on the surface of the cobalt hydroxide coating. The nickel compound may also include additives, such as transition metals, in an amount of 0.2-25 % (wt.), (see pp. 34-46). The material is added as a coating to a substrate and is used as a cathode active material in a secondary battery. With regard to claim 29, the reference does not teach the nickel hydroxide to have water molecules in the structure and, therefore, the structure will have less than 10% water. Thus, the claims are anticipated.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 26 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Watada et al. (JP 10-021,901) in view of Yano et al. (US6, 007,946.)

Watada et al. (JP 10-021,901) teaches a cathode active material in a secondary battery including a nickel hydroxide active material having a cobalt (II) hydroxide coating that is stable to oxidation as previously described. Watada et al. (JP 10-021,901) does not teach the material to have an average particle size of 0.5-500 μm . Yano et al. (US 6,007,946) teaches a cathode active material in a secondary battery including a nickel hydroxide active material having a cobalt hydroxide coating. The examples show that the active material includes a cobalt-coated, nickel hydroxide active material with a mean diameter of 10 μm . It would be obvious to one of

ordinary skill in the art at the time the invention was made to prepare an active material with an average particle size of 0.5-500 μm as the material will have a large surface area for electrochemical activity and electron transfer. Further, one of ordinary skill would recognize the desirability of an average particle size of 0.5-500 μm to form a uniform mixture in an electrode and provide a high concentration of active material for increased capacity. The artesian would have found the claimed invention to be obvious in light of the teachings of the references.

Response to Arguments

Applicant's arguments filed 11/3/2003 have been fully considered but they are not persuasive. The applicant has amended the claim to state that the surface of the cobalt hydroxide coating is at most a monomolecular layer of the anions of the weak inorganic oxygen molecules. It is shown in the reference that the cobalt hydroxide layer includes a component that includes a weak oxide ion such as carbonate. The inclusion of this material will inherently form a less than monomolecular coating on the Co molecule based on the stoichiometry of the molecule. As the claim includes the limitation that the oxide is at most a monomolecular layer of the anions of weak inorganic oxygen molecules, this limitation is met by the amount of sulfate or carbonate in the molecule. The molecule will inherently form an amount of weak inorganic oxygen molecules on the surface of the cobalt hydroxide.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Examiner Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Ruthkosky whose telephone number is 571-272-1291. The examiner can normally be reached on FLEX schedule (generally, Monday-Thursday from 9:00-6:00.) If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached at 571-272-1292. The fax phone number for the organization is 703-872-9306.

Mark Ruthkosky
Primary Patent Examiner
Art Unit 1745

Mark Ruthkosky
11/23/04